

WHAT IS CLAIMED IS:

- 1           1.       A method for processing predicates in an iterator function, comprising:  
2           when an iterator function included in a statement is invoked,  
3                   obtaining one or more predicates included in the statement;  
4                   applying the one or more predicates to a row of data;  
5                   if applying the one or more predicates results in a match, returning the row  
6 of data; and  
7                   if applying the one or more predicates does not result in a match,  
8 searching for another row of data for which application of the one or more predicates  
9 results in a match.
- 1           2.       The method of claim 1, wherein obtaining the one or more predicates  
2 comprises:  
3           obtaining a qualification descriptor that describes the one or more predicates and  
4 one or more functions.
- 1           3.       The method of claim 2, wherein each function is used to process one of  
2 the predicates.
- 1           4.       The method of claim 1, wherein each of the one or more predicates  
2 comprises a simple predicate.
- 1           5.       The method of claim 1, wherein the iterator function is invoked by a data  
2 store engine and further comprising:  
3           returning the row of data to the data store engine.

1           6.     A method for processing predicates, comprising:  
2           receiving a statement including an iterator function and one or more predicates;  
3           creating a qualification descriptor that describes the one or more predicates and  
4 one or more functions that are to be used to evaluate the one or more predicates; and  
5           invoking the iterator function one or more times, until receiving a done indicator  
6 from the iterator function.

1           7.     The method of claim 6, wherein the qualification descriptor provides a  
2 handle to each of the one or more functions.

1           8.     The method of claim 6, further comprising:  
2           when the iterator function is invoked, receiving an indication from the iterator  
3 function indicating whether the one or more predicates were applied by the iterator  
4 function.

1           9.     The method of claim 6, further comprising:  
2           when the iterator function is invoked, receiving a row of data from the iterator  
3 function that matches the qualification of the one or more predicates.

1           10.    The method of claim 9, further comprising:  
2           applying one or more additional predicates to the received row of data, wherein  
3 the one or more additional predicates refer to a column of data that is not in a result set  
4 generated by the iterator function.

1           11.    The method of claim 9, further comprising:  
2           applying one or more additional predicates to the received row of data, wherein  
3 the one or more additional predicates performs a join between two tables.

1           12.    A method for processing predicates, comprising:  
2           under control of a data store engine,  
3                receiving a statement including an iterator function and one or more  
4 predicates;  
5                creating a qualification descriptor that describes the one or more  
6 predicates and one or more functions that are to be used to evaluate the one or more  
7 predicates; and  
8                invoking the iterator function; and  
9           under control of an iterator function processor,  
10           retrieving the qualification descriptor;  
11           obtaining a row of data that matches the qualification in the qualification  
12 descriptor; and  
13           returning the row of data to the data store engine.

1           13.    The method of claim 12, wherein the qualification descriptor describes  
2 one or more simple predicates to be applied by the iterator function processor.

1           14.    An article of manufacture including a program for processing predicates  
2 in an iterator function, wherein the program causes operations to be performed, the  
3 operations comprising:  
4           when an iterator function included in a statement is invoked,  
5                obtaining one or more predicates included in the statement;  
6                applying the one or more predicates to a row of data;  
7                if applying the one or more predicates results in a match, returning the row  
8 of data; and  
9                if applying the one or more predicates does not result in a match,  
10 searching for another row of data for which application of the one or more predicates  
11 results in a match.

1           15.     The article of manufacture of claim 14, wherein operations for obtaining  
2 the one or more predicates further comprise:  
3           obtaining a qualification descriptor that describes the one or more predicates and  
4 one or more functions.

1           16.     The article of manufacture of claim 15, wherein each function is used to  
2 process one of the predicates.

1           17.     The article of manufacture of claim 14, wherein each of the one or more  
2 predicates comprises a simple predicate.

1           18.     The article of manufacture of claim 14, wherein the iterator function is  
2 invoked by a data store engine and wherein the operations further comprise:  
3           returning the row of data to the data store engine.

1           19.     An article of manufacture including a program for processing predicates,  
2 wherein the program causes operations to be performed, the operations comprising:  
3           receiving a statement including an iterator function and one or more predicates;  
4           creating a qualification descriptor that describes the one or more predicates and  
5 one or more functions that are to be used to evaluate the one or more predicates; and  
6           invoking the iterator function one or more times, until receiving a done indicator  
7 from the iterator function.

1           20.     The article of manufacture of claim 19, wherein the qualification  
2 descriptor provides a handle to each of the one or more functions.

1           21.    The article of manufacture of claim 19, wherein the operations further  
2 comprise:  
3           when the iterator function is invoked, receiving an indication from the iterator  
4 function indicating whether the one or more predicates were applied by the iterator  
5 function.

1           22.    The article of manufacture of claim 19, wherein the operations further  
2 comprise:  
3           when the iterator function is invoked, receiving a row of data from the iterator  
4 function that matches the qualification of the one or more predicates.

1           23.    The article of manufacture of claim 22, wherein the operations further  
2 comprise:  
3           applying one or more additional predicates to the received row of data, wherein  
4 the one or more additional predicates refer to a column of data that is not in a result set  
5 generated by the iterator function.

1           24.    The article of manufacture of claim 22, wherein the operations further  
2 comprise:  
3           applying one or more additional predicates to the received row of data, wherein  
4 the one or more additional predicates performs a join between two tables.

1           25.    An article of manufacture including a program for processing predicates,  
2 wherein the program causes operations to be performed, the operations comprising:  
3           under control of a data store engine,  
4           receiving a statement including an iterator function and one or more  
5 predicates;

6                   creating a qualification descriptor that describes the one or more  
7 predicates and one or more functions that are to be used to evaluate the one or more  
8 predicates; and  
9                   invoking the iterator function; and  
10                  under control of an iterator function processor,  
11                   retrieving the qualification descriptor;  
12                   obtaining a row of data that matches the qualification in the qualification  
13 descriptor; and  
14                   returning the row of data to the data store engine.

1           26.    The article of manufacture of claim 25, wherein the qualification  
2 descriptor describes one or more simple predicates to be applied by the iterator function  
3 processor.

1           27.    A computer system having at least one program for processing predicates  
2 in an iterator function, comprising:  
3           when an iterator function included in a statement is invoked,  
4                   obtaining one or more predicates included in the statement;  
5                   applying the one or more predicates to a row of data;  
6                   if applying the one or more predicates results in a match, returning the row  
7 of data; and  
8                   if applying the one or more predicates does not result in a match,  
9 searching for another row of data for which application of the one or more predicates  
10 results in a match.

1           28.    The computer system of claim 27, wherein obtaining the one or more  
2 predicates comprises:  
3           obtaining a qualification descriptor that describes the one or more predicates and  
4 one or more functions.

1           29.    The computer system of claim 28, wherein each function is used to  
2 process one of the predicates.

1           30.    The computer system of claim 27, wherein each of the one or more  
2 predicates comprises a simple predicate.

1           31.    The computer system of claim 27, wherein the iterator function is invoked  
2 by a data store engine and further comprising:  
3           returning the row of data to the data store engine.

1           32.    A computer system having at least one program for processing predicates,  
2 comprising:  
3           receiving a statement including an iterator function and one or more predicates;  
4           creating a qualification descriptor that describes the one or more predicates and  
5 one or more functions that are to be used to evaluate the one or more predicates; and  
6           invoking the iterator function one or more times, until receiving a done indicator  
7 from the iterator function.

1           33.    The computer system of claim 32, wherein the qualification descriptor  
2 provides a handle to each of the one or more functions.

1           34.     The computer system of claim 32, further comprising:  
2           when the iterator function is invoked, receiving an indication from the iterator  
3     function indicating whether the one or more predicates were applied by the iterator  
4     function.

1           35.     The computer system of claim 32, further comprising:  
2           when the iterator function is invoked, receiving a row of data from the iterator  
3     function that matches the qualification of the one or more predicates.

1           36.     The computer system of claim 35, further comprising:  
2           applying one or more additional predicates to the received row of data, wherein  
3     the one or more additional predicates refer to a column of data that is not in a result set  
4     generated by the iterator function.

1           37.     The computer system of claim 35, further comprising:  
2           applying one or more additional predicates to the received row of data, wherein  
3     the one or more additional predicates performs a join between two tables.

1           38.     A computer system for processing predicates, comprising:  
2           under control of a data store engine,  
3                 means for receiving a statement including an iterator function and one or  
4     more predicates;  
5                 means for creating a qualification descriptor that describes the one or  
6     more predicates and one or more functions that are to be used to evaluate the one or more  
7     predicates; and  
8                 means for invoking the iterator function; and  
9           under control of an iterator function processor,  
10                means for retrieving the qualification descriptor;



11                    means for obtaining a row of data that matches the qualification in the  
12 qualification descriptor; and  
13                    means for returning the row of data to the data store engine.

1            39.    The computer system of claim 38, wherein the qualification descriptor  
2 describes one or more simple predicates to be applied by the iterator function processor.